AM. J. DRUG ALCOHOL ABUSE, 15(1), pp. 101-113 (1989)

Psychoactive Drugs, Alcohol, and Stress and Coping Processes in Older Adults

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ABSTRACT

Data are presented on a) the relationship between psychoactive substance use and personal characteristics, b) the relationship between psychoactive substance use and appraisal of and coping with stressful situations, and c) the use of psychoactive substances specifically to cope with stress among older people. Data were provided by 141 65-to-74-year-old retired Caucasians who were assessed repeatedly over 6 months. Compared to national samples, subjects were relatively heavy users of alcohol and average users of psychoactive drugs. Use of alcohol increased with income, and drug use was associated with several psychosocial characteristics as well as with psychological and somatic health. Psychoactive substance use did not relate to the ways subjects appraised and coped with stressful encounters. Further, only a small number of subjects used drugs or alcohol specifically to help them cope in these encounters. The findings about psychoactive drug *users* are compared with other findings about *misusers* of drugs, and the risks associated with each type of drug use are discussed.

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BACKGROUND

Social and behavioral scientists and health care professionals have become increasingly concerned about the use of psychoactive substances by the elderly. Epidemiological evidence shows that a higher percentage of elderly than young persons use psychoactive drugs [1-3]. Rates of alcohol use remain lower among the elderly than younger persons, but the proportion of men and women over the age of 64 years who drink increased considerably during the 1970s [4, 5].

Although some investigators have assumed that the elderly use tranquilizers and sedatives to alleviate chronic and nonserious symptoms such as insomnia and anxiety [6, 7], most data suggest that older persons are quite conservative in their use of psychoactive substances. The elderly are no more likely than the young to be heavy users of psychoactive drugs [1], and they are much less likely to be heavy consumers of alcohol [5, 8]. The elderly are less likely than the young to use prescription drugs obtained from sources other than a physician, their use of sedatives and tranquilizers tends to be infrequent and for short periods [9], and they are more likely to consult with a physician prior to combining a psychoactive drug with something else than prior to combining nonpsychoactive agents [10].

Thus, it is not because the elderly are likely to be excessive or careless users of psychoactive substances that questions arise about their use, but because of the potential effects of psychoactive substances on functioning to which the older person may be especially vulnerable. For instance, there is some evidence that the elderly are more likely than the young to experience a variety of adverse reactions to hypnotics [6], and that drugs can reinforce some of the slowing observed in the elderly [11]. Although wine has been seen as having salutary effects on the elderly, investigators warn of the risks to older imbibers resulting from their decreased tolerance for alcohol [7, 11].

Despite the concern about the effects of psychoactive substances on the functioning of older persons, there is very little research-generated information in the literature on the association between coping and the use of psychoactive substances among the elderly. The only association found in one study of coping and alcohol use among persons spanning a wide age range is that abstainers were more likely to use religion as a coping mechanism than were persons who drink [12]. In a sample of elderly persons, no significant differences were found in decision-making processes between users of drugs and nonusers [10].

In the present study we used intensive and repeated measurement to examine coping and psychoactive drug and alcohol use in a sample of healthy, retired, 65-to-74-year-old community residents. In this article we report on personal characteristics correlated with use of psychoactive substances, on the relationship between psychoactive substance use and the ways people appraise and cope with stressful situations, and on the tendency of older persons to use psychoactive substances specifically to cope with stress.

METHOD

Sample

The sample consisted of 161 persons between the ages of 65 and 74 living in the San Francisco Bay Area and retired from full-time work. To match samples of previous studies [13, 14], subjects were Caucasian, Protestant or Catholic, and had at least an 8th-grade education, an above-marginal family income, and were not bedridden. Qualified subjects, identified through random-digit dialing, received a letter explaining the study, then a telephone call from a project interviewer who answered questions and requested a home interview. Forty-four percent of the people who received letters agreed to be in the study. Twenty people (12%) dropped out, leaving a final sample of 141. The data were gathered in two 6-month waves from September 1983 through August 1984.

Forty-seven percent of the final sample was male and 58% was married. The mean age of the women was 68.9 years, that of the men was 68.3. The median family income was $22,500, and the mean number of years of education was 14.7. The 195 people who refused to be in the study were compared to the final sample on age, gender, religion, and education (information on income was not available for those who refused to be in the study). The only significant difference was in education: Those who refused to be in the study had a mean education of 13.2 years. The 20 people who dropped out of the study did not differ from those who remained in terms of any of the four background variables.

Of the 141 subjects in this study, 12 men (17.9%) and 22 women (29.7%) acknowledged using a major or minor tranquilizer, a sedative, or an antidepressant at least once in the year preceding the study. The figures are very close to those found in a 1979 national sample of 65-to-79-year-old community residents, in which 16.2% of males and 27.5% of females had used at least one drug from among the same categories in the year preceding interview [9].

With regard to alcohol use, our sample is quite different from the national population of older persons. Almost 90% of the sample had at least one drink during the 6 months prior to the study, and 18% of the men and 11% of the women acknowledged having 60 or more drinks a month on the average. In a 1979 national survey, approximately half of all persons over the age of 60 had a drink within 6 months of the interview, and about 10% of the men and 1% of the women reported having 60 or more drinks a month on the average [5]. Although the national survey data show that rates of abstention are very low in the Pacific states, this area is not very different from the rest of the nation with regard to heavy drinking (defined as 60 or more drinks per month on the average).

Procedures

Subjects were interviewed in their homes once a month for 6 months. Interviews lasted about 1 to 1½ hours. In addition, subjects completed questionnaires between interviews. Each subject had the same interviewer throughout the study and interviews were conducted in private.

Measures

The measures include person variables; prestudy and study drug and alcohol use, process variables, and psychological and somatic health status variables.

Person variables. Scheduling of the measurements and the sources of measures of the person variables (mastery, self-esteem, interpersonal trust, religious beliefs, perceived social support, and values and commitments) are shown in Table 1. Scores on the person variables were factor analyzed in order to reduce their number. A principal factor analysis with orthogonal rotation produced six factors: self-actualization, traditional and religious orientation, social and self-esteem, self-protection, perceived social support, and power and success. The factors were scored by summing ratings.

Chemical use variables. Drug use history and pattern data were collected using methods developed for a national survey of psychotherapeutic drug use [21]. In the first interview, respondents were led through a series of questions about five categories of drugs: analgesics, antispasmodics/antacids, sedatives, tranquilizers, and antidepressants. As a category was introduced to subjects, they were shown a photo plate depicting, in true color and actual size, the most commonly prescribed (and most commonly purchased nonprescription) forms of that category. For each drug a subject acknowledged using in the preceding year, he or she was asked its source, the reason for its prescription, pattern and duration of use, reason it was taken last time it was used, if it was currently available in the home, and if he or she ever took more or less of the drug than recommended. In the last interview the same data were collected for drugs subjects began taking during the course of the study.

With the data described above, we categorized the subjects' drug use. Prestudy drug use is defined as use of any of the drugs described above, except analgesics, during the 4 weeks preceding the first interview. Study use is defined as any use during the 6-month study period. For both time periods, subjects were categorized as 1) users of psychoactive drugs (sedatives, tranquilizers, antidepressants); 2) users of antispasmodic/antacid, but not psychoactive, drugs; and 3) nondrug users (persons who reported no use of psychoactive or antispasmodic/antacid drugs although they may have used drugs in other categories).

Alcohol use questions asked about frequency of use of beer, wine, and liquor at each of three quantity levels. With these data, we categorized the subjects as: *Nondrinkers* (15 persons who had nothing to drink in the 6 months prior to the interview), *Infrequent drinkers* (9 drinkers who drank in the last 6 months but less often than once a month), *Light drinkers* (44 persons who drank at least once a month but were unlikely to have as much as a drink a week), *Moderately Light drinkers* (25 respondents who had at least a drink a week and were likely to have a drink a day), *Moderate drinkers* (28 persons who had a drink on most days and were likely to have two drinks a day), or *Heavy drinkers* (20 respondents who usually had more than two drinks a day). For purposes of analysis, nondrinkers and infrequent drinkers were combined to make a single category containing 24 individuals.

Process variables. Primary appraisal of stakes was measured with two scales, concern with one's own well-being and concern for a loved one's well-being [22], as part of a structured interview used to reconstruct a stressful encounter that had been experienced by the subject during the previous month.

Secondary appraisal of coping options was measured with a single item as part of the structured interview described above. It asked the subject the extent to which the situation was one he or she could change or do something about.

Coping was measured with a 31-item version of the 66-item revised Ways of Coping as a part of the structured interview described above (for a description of the revised ways of Coping, see Ref. 23; for a description of the short version and how it was administered, see Ref. 22). The scales and their alphas in the present sample are as follows: *Confrontive coping* (4 items, alpha = .64), *Distancing* (4 items, alpha = .68), *Self-control* (4 items, alpha = .51), *Seeking social support* (5 items, alpha = .72), *Accepting responsibility* (3 items, alpha = .49), *Escape-Avoidance* (4 items, alpha = .47), *Planful problem-solving* (4 items, alpha = .74), *Positive reappraisal* (3 items, alpha = .63). The coping scales were scored by summing ratings.

Emotions that subjects experienced when the encounter was most stressful and when it was over (or, if the encounter was not yet over, that they were currently experiencing) were measured with 21 items that were grouped into four scales: disgusted/angry, pleased/happy, worried/fearful, and confident/secure [23].

Encounter outcomes were measured with an item that asked subjects to rate how the encounter turned out. This question could only be asked for encounters that the subjects said were over. In addition, subjects were asked to rate themselves on a scale from 1 to 10 on how well they had managed overall.

Drug and alcohol use during stressful encounters was measured by asking subjects if they had had anything to drink or if they had taken any kind of drug or medicine "to help you in that situation." Subjects who responded affirmatively were asked when, in the course of the situation, they had had the substance and how much they had used.

Psychological and somatic health variables. Psychological symptomatology was measured with the brief version of the Hopkins Symptom Checklist (HSCL) [25], which has a demonstrated sensitivity to low levels of symptoms in normal populations [26]. The HSCL contains five subscales but, because of high intercorrelations among the subscales and a similar patterning of relations between the subscales and the other variables in the study, we used the sum of ratings as a single score.

Life satisfaction was measured during the fifth interview with an 18-item scale developed to assess well being [27].

Somatic health status was measured with a self-report questionnaire adapted from that used by the Human Population Laboratory [28]. Subjects were assigned to one of four levels of health (disabled, chronically ill, symptomatic, and healthy) according to their most serious health problem, with low scores indicating poor health. Items that pertained to the person's overall energy level were excluded from the scoring because of their overlap with psychological symptoms.

A summary of the design of the study is shown in Table 1. Prestudy alcohol and drug use were examined in relationship to the person variables

Table 1. Design of the Study

	Month					
	1	2	3	4	5	6
Person variables:						
Mastery [15]				×		
Self-esteem [16]				×		
Interpersonal trust [17]				×		
Religious beliefs [18]			×			
Perceived social support [19]	×					
Values and commitments [20]					×	
Alchohol:						
For previous 6 months	×					×
Drugs:						
For month before study	×					
For 6 study months						×
Daily use		×[a]	×[a]	×[a]	×[a]	
Process variables:						
Appraisal		×	×	×	×	
Coping		×	×	×	×	
Emotion		×	×	×	×	
Encounter outcomes		×	×	×	×	
Outcome variables:						
Psychological symptoms	×					×
Health status	×					×
Life satisfaction				×		

[a] Four consecutive days each month.

and the psychological and somatic health variables measured at Month 1. Study alcohol and drug use were examined in relation to the process variables that were measured during Months 2 through 5, life satisfaction measured at Month 5, and psychological and somatic health status measured at Month 6. Multivariate analyses of variance (MANOVA) with the Wilk's lambda *F* statistic were used to evaluate the relationship between alcohol and drug use and the sets of variables (demographic, person, process, and outcome) in the study with the exception of the outcome variable of life satisfaction, which was analyzed separately because it was not measured at the same time as the other outcome variables. Relationships between alcohol and drug use and life satisfaction were evaluated with analyses of variance (ANOVA).

RESULTS

Results of the analyses are presented in Table 2.

Table 2. Results of Data Analyses

Prestudy drug use:	
Demographic variables	$F(10,256) = 0.77$, N.S.
Person variables	$F(12,166) = 2.53, p < .01$
Psychological symptoms and health status	$F(4,274) = 5.90, p < .001$
Prestudy Alcohol Use:	
Demographic variables	$F(20,418) = 1.83, p < .02$
Person variables	$F(24,458) = 1.19$, N.S.
Psychological symptoms and health status	$F(8,270) = 1.25$, N.S.
Study Drug Use:	
Primary appraisal	$F(4,272) = 2.09$, N.S.
Secondary appraisal	$F(4,202) = 0.67$, N.S.
Coping	$F(16,262) = 1.34$, N.S.
Emotion	$F(8,270) = 1.79$, N.S.
Encounter outcome	$F(2,127) = 1.10$, N.S.
Overall management	$F(4,119) = 2.22$, N.S.
Psychological symptoms and health status (Month 6)	$F(4,274) = 3.33, p < .02$
Life satisfaction (Month 5)	$F(2,138) = 7.05, p < .01$
Study Alcohol Use:	
Primary appraisal	$F(8,272) = 0.84$, N.S.
Secondary appraisal	$F(8,198) = 0.78$, N.S.
Coping	$F(2,477) = 1.04$, N.S.
Emotion	$F(16,373) = 0.76$, N.S.
Encounter outcome	$F(4,125) = 0.70$, N.S.
Overall management	$F(4,119) = 2.12$, N.S.
Psychological symptoms and health status (Month 6)	$F(8,270) = 0.54$, N.S.
Life satisfaction (Month 5)	$F(2,138) = 3.80, p < .01$

Prestudy drug use. The relationship between prestudy drug use and the demographic variables of age, family income, education, marital status, and gender was not significant, but that between prestudy drug use and the six person factors was. The univariate tests indicated that the relationship was due to the self-esteem factor: subjects who reported using psychoactive drugs during the month before the study had the lowest scores, $M = 51.99$, and subjects who did not use psychoactive drugs had the highest score, $M = 57.18$, $F = 6.14$, $p < .01$. The pattern was reversed for the self-protection factor. Subjects who reported using psychoactive drugs during the month before the study had the highest score, $M = 67.41$, and subjects who did not use psychoactive drugs had the lowest score, $M = 63.35$, $F = 3.48$, $p < .05$. The test for the power and success factor approached significance, $F = 2.89$, $p < .06$. Subjects who used psychoactive drugs during the previous month had the highest score on this factor, $M = 54.32$, meaning that they give relatively high value to power and success, and subjects who did not use psychoactive drugs had the lowest score, $M = 50.05$.

The relationship between prestudy drug use and Time 1 psychological symptoms and health status was also significant. Those who used psychoactive drugs reported the most symptoms, $M = 28.03$, and the poorest somatic health, $M = 2.52$, and the nondrug users reported the fewest psychological symptoms, $M = 14.53$, $F = 8.64$, $p < .001$, and the best somatic health, $M = 3.47$, $F = 6.43$, $p < .01$.

Prestudy alcohol use. There was a significant relationship between the demographic variables and prestudy alcohol use, and the univariate tests indicated that the effect was due to family income, $F = 4.52$, $p < .01$, with drinking increasing with income. There was no relationship between prestudy alcohol use and the person factors or Month 1 psychological or somatic health status.

Study drug use. Study drug use was not related to any of the process variables. However, the relationship between study drug use and psychological symptoms and health status at Month 6 was significant because of psychological symptoms. Subjects who did not use psychoactive drugs during the study had the fewest psychological symptoms, $M = 14.10$, and subjects who used psychoactive drugs had the most symptoms, $M = 25.52$, $F = 6.82$, $p < .01$. The relationship between study drug use and somatic health status was not significant. The relationship between study drug use and life satisfaction at Month 5 was significant, with subjects who did not use psychoactive drugs during the study having the highest scores, $M = 5.46$, and subjects who used psychoactive drugs having the lowest, $M = 4.99$.

Study alcohol use. Alcohol use was not related to the process variables nor to psychological symptoms and somatic health status, but it was positively related to life satisfaction. The life satisfaction scores for the groups were as follows: Nondrinkers and infrequent drinkers = 5.04, Light drinkers = 5.16, Moderately light drinkers = 5.38, Moderate drinkers = 5.52, and Heavy drinkers = 5.60.

Psychoactive drug and alcohol use during stressful encounters. Twelve subjects (8.5% of the sample) reported that they used a psychoactive drug to help them feel better during a stressful encounter. Of the 12 subjects, four reported using drugs during two of their four encounters; the remaining eight subjects reported using drugs during only one encounter. Of the nine drugs that subjects reported using, eight were prescribed (seven of the eight were tranquilizers) and one was over-the-counter. The modal pattern was to take a drug during the middle of an encounter (eight subjects) and/or when it was almost over (nine subjects) rather than at the beginning (four subjects). All but one of the subjects indicated that the drug helped.

Seventeen subjects (12% of the sample) reported that they had a drink to help them feel better during a stressful encounter. Of these, one subject reported using alcohol during each of his four encounters, three subjects reported using alcohol during three encounters, four subjects used alcohol during two encounters, and the remaining nine subjects used alcohol during only one encounter. Nine of the 17 subjects said that they used about the same amount of alcohol as usual on each of these occasions, seven said they used more, and one said he used less.

DISCUSSION

The respondents in this study are more likely to use alcohol than are participants of similar ages in national samples, and they are more likely to be heavy users of alcohol. We suggest that the level of alcohol use among our subjects reflects their relatively advantaged status. They are reasonably affluent, and they are in reasonably good physical health. These characteristics are associated with use of alcohol, as is residence in the

Pacific Coast region of the county. We expect that these subjects are no more likely to use alcohol than are other affluent, healthy Californians of their age.

With respect to the use of psychoactive drugs, our sample is not atypical. However, unlike the samples in other studies, in ours there was no association between gender and either psychoactive drug or alcohol use. Apparent first-order correlations between gender and drug and alcohol use disappeared when analyses took account simultaneously of income, marital status, education, and gender. This finding strongly suggests that subsequent comparisons of psychoactive substance use by men and women should involve more control over other variables known to be associated with both gender and use of drugs or alcohol.

The results of this study are consistent with other findings that persons who are using psychoactive drugs do not feel good about themselves compared with those who are nonusers. We found that they also hold themselves in low esteem, are self-protective, and tend to value power and success more than do their nondrug-using peers. The findings reported in this paper, in conjunction with findings reported in a companion paper [29], suggest important distinctions between people who use psychoactive drugs and people who misuse drugs, that is, use drugs (including all over-the-counter and prescribed drugs and alcohol, not just psychoactive drugs) inappropriately (e.g., by not following directions), use drugs that interact with each other in unintended ways, and/or use multiple drugs from the same pharmacologic class. First, people who use psychoactive drugs constitute only a small proportion of drug misusers. The overlap between misusers and psychoactive drug users needs to be examined in a sample containing more psychoactive drug users than did the present sample. Second, whereas users of psychoactive drugs appear to have psychosocial deficits, drug misusers do not. This finding suggests that people who use psychoactive drugs may be at greater risk for excessive drug use, or what is generally thought of as "drug abuse," than are drug misusers.

The major finding of this study is that, although users of psychoactive drugs are not as well physically or emotionally as nonusers, their use of the drugs (or alcohol) does not seem to interfere with their ability to cope with stress, and those subjects who explicitly use drugs for that purpose report that such use is helpful. One interpretation of this finding is that those subjects who use psychoactive drugs derive short-term benefit (help in stressful situations) at the expense of their long-term well being (poor health and psychological distress). This interpretation suggests that the psychoactive drugs create psychological or somatic symptoms. However, it is more likely that symptoms and psychological state lead to psychoactive drug use. The drugs tend to alleviate symptoms of psychological distress and, as our data show, do not appear to influence the strategies selected by people to cope with the stress they encounter in their lives. In fact, as noted above, subjects report that the drugs are helpful when used as part of the coping strategy. This interpretation leads to the conclusions that, for at least relatively healthy older persons with adequate resources at their disposal, the judicious use of psychoactive drugs may have both short- and long-term benefits.

ACKNOWLEDGMENTS

This study was supported by National Institute on Drug Abuse Grant R01-DA02976. The Institute for Research in Social Behavior in Oakland, California, made their color plates of frequently used drugs available for this study.

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